

REMARKS

No claims have been amended, added, or cancelled. Accordingly, claims 26-50 remain in this application.

Rejections under 35 U.S.C. § 112

Claim 26-50 stand rejected under 35 U.S.C. §1123, first paragraph, for lack of enablement. Specifically, the Examiner asserts that the specification does not support the Applicants' previously added limitations relating to "stretching" with respect to defining a "musculoskeletal strain" as such. Thus, the Examiner continues to maintain that the term "strain" encompasses a tension, effort, or use. Furthermore, the Examiner asserts that the term "musculoskeletal" implies the skeletal and muscle portion of the body, as opposed to Applicants' definition of "a bone, a muscle, a cartilage, a tendon, a ligament, a joint, or a connective tissue."

Applicants respectfully disagree with the Examiner's definitions and understanding of the claim limitations on the basis of the contemporaneously submitted Declarations Under 37 C.F.R. § 1.132 of non-inventors Dr. Moritz N. Wentz and Dr. Ingrid Südhoff, who are both considered experts in the field of orthopedic surgical interventions/anatomical processes and biomechanics/geometric modeling thereof, respectively (*See* Sections 1 and 2 of the respective Declarations).

Both Dr. Wentz and Dr. Südhoff each attest in Section 3 of the respective Declarations that:

the term "musculoskeletal" in the anatomical and surgical arts encompasses bones, muscles, cartilage, tendons, ligaments, joints, and/or connective tissue. I also attest that the term "musculoskeletal strain" in the anatomical and surgical arts encompasses stretching in any of the aforementioned components of the musculoskeletal system that is subject to that strain. Additionally, I attest that it is common and accepted knowledge in the anatomical and surgical arts that any strain to the musculoskeletal system inherently results in injury, weakening, or overexertion of a joint or tissue of the system.

Dr. Wentz specifically attests that:

any reference to "strains" in the context of musculoskeletal strains is *strictly* interpreted to mean "stretching" and does not include the non-medical aspects of exerting effort or use of the aforementioned musculoskeletal system components (emphasis added).

Applicants respectfully submit that the aforementioned statements by Dr. Wentz and Dr. Südhoff with respect to the previously added limitations overcome the §112 rejections.

Rejections under 35 U.S.C. 102(b)

Claims 26, 27, 31-38, and 40-49 stand rejected under 35 U.S.C. § 102(b) for anticipation by U.S. Patent No. 6,205,411 to DiGioia, III et al. (hereinafter “the DiGioia patent”). Based on the foregoing evidence for the accepted definitions and understanding of the contested terminology, via the submitted Declarations, Applicants respectfully submit that the DiGioia patent fails to disclose, among other things, the claimed aspect of “automatically determining individual musculoskeletal strains from the determined musculoskeletal parameters of the patient, *wherein the individual musculoskeletal strains are a stretching in a bone, a muscle, a cartilage, a tendon, a ligament, a joint, or a connective tissue of the musculoskeletal system of the patient that results in injury, weakening, or overexertion of a joint or tissue of the musculoskeletal system.*” Based on the submitted evidence with respect to the accepted definitions and understanding of the previously amended limitations, Applicants hereby incorporate by the reference, the previously submitted arguments relating thereto.

Notwithstanding the foregoing, Applicants would also like to address the argument offered by the Examiner with respect to the database limitations. The Examiner asserts that Applicants’ “limitations” (i.e., “experimental” strain values and “size of the femur, the tibia, the range of motion, the different angles between body members”) on which it relies are not stated in the claims. However, Applicants have not amended the claims to cover these limitations and do not rely on them for purposes of defining over the DiGioia patent. Applicants provide these “limitations” only as examples of the types of musculoskeletal parameters that may be accounted for by the database. Claim 26 requires, among other things, that individual musculoskeletal parameters of a person are used to find experimental strain values in a database corresponding to these individual musculoskeletal parameters and then using these experimental values from the database as individual musculoskeletal strain values for the person. Applicants submit that the Examiner is simply pointing to the “comparison” aspect of the DiGioia patent (i.e., calculated range of motion being compared to predetermined range of motion) without regard to the other limitations of the claims. Furthermore, Applicants offer that Dr. Wentz and Dr. Südhoff, having reviewed the DiGioia patent, do not view this reference to contain any disclosure with respect to (1) comparing individual musculoskeletal parameters and musculoskeletal reference parameters

and (2) computing individual musculoskeletal strains and to use musculoskeletal reference strains stored in a database (*See* Section 4 of the respective Declarations).

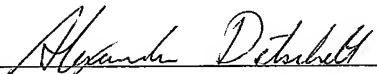
For the foregoing reasons, Applicants believe that the subject matter of independent claim 26 is not anticipated by the DiGioia patent. Dependent claims 28-30 stand rejected for obviousness over the DiGioia patent in view of asserted inherency of the claimed steps. Claims 28 and 39 stand rejected for obviousness in view of the DiGioia patent in view of United States Patent Publication Application No. 2005/0203504 to Wham et al. Claims 27-50, encompassing the claims rejected for obviousness depend from and add further limitations to independent claim 26 and are believed to be patentable for at least the reasons discussed hereinabove in connection with independent claim 26. Applicants respectfully request that the Examiner withdraw both the anticipation and obviousness rejections.

### **CONCLUSION**

Based on the foregoing remarks, reconsideration of the rejections and allowance of pending claims 26-50 are respectfully requested.

Respectfully submitted,

THE WEBB LAW FIRM

By 

Alexander Detschelt  
Registration No. 50,261  
Attorney for Applicants  
700 Koppers Building  
436 Seventh Avenue  
Pittsburgh, PA 15219  
Telephone: 412-471-8815  
Facsimile: 412-471-4094  
E-mail: [webblaw@webblaw.com](mailto:webblaw@webblaw.com)